

REDUCING SCOUR IN COMMERCIAL PIG FARMS WITH A NOVEL PLANT EXTRACT— RESULTS OF VETERINARIAN FIELD TRIALS

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BACKGROUND: In the Netherlands, Dutch commercial pig farmers are required to reduce use of antimicrobials by 50% before 2013, as well as cease the use of 3rd and 4th generation cephalosporines and quinolones. In the USA in April 2012, the FDA issued a final guidance document that outlined ways to reduce the use of antibiotics in food-producing animals.

A novel product to substitute for use of such materials is Grazix Feed Supplement (LiveLeaf Bioscience, San Carlos, California, USA). This supplement has demonstrated a reduction of diarrhea in pigs in laboratory settings and in a few large commercial farm pilot studies. Its mode of action is hypothesized to be a modifying agent of the innate immune response in regions of the gastrointestinal tract that are stressed or injured by pathogens associated with the diarrheal response.

OBJECTIVE: Assess the use of Grazix feed supplement to reduce incidence of scour in litters of piglets prior to weaning.



Figure 1. Administration of Grazix feed supplement to piglet with evidence of scour.

RESULTS: In The Netherlands, piglets that consumed the Grazix solution experienced 75% fewer episodes of scour. During the time that the Grazix solution was available, these farmers required little to no use of antimicrobial agents. The mean mortality rate for piglets receiving antibiotics was 21%, while the mean mortality rate was significantly lower ($p<0.0001$) with administration of the Grazix supplement, 11% (Figure 2).

In the USA, over 6,000 piglets were provided the supplement. Piglets aged 0 to 8 days in 437 litters displaying scour were provided with a serving of Grazix feed supplement and in 11% of litters, the scour resolved the same day as consumption of the supplement and 72% more resolved the following day; 83% of litters required only one administration of the supplement to realize resolution (Figure 3a). Piglets aged 9 to 21 days in 62 litters who developed scour saw 15% of the events resolved the same day that the Grazix supplement was administered, with an additional 58% resolving the next day (Figure 3b). Only 27% of litters required two administrations of the supplement in order to have resolution of scour.

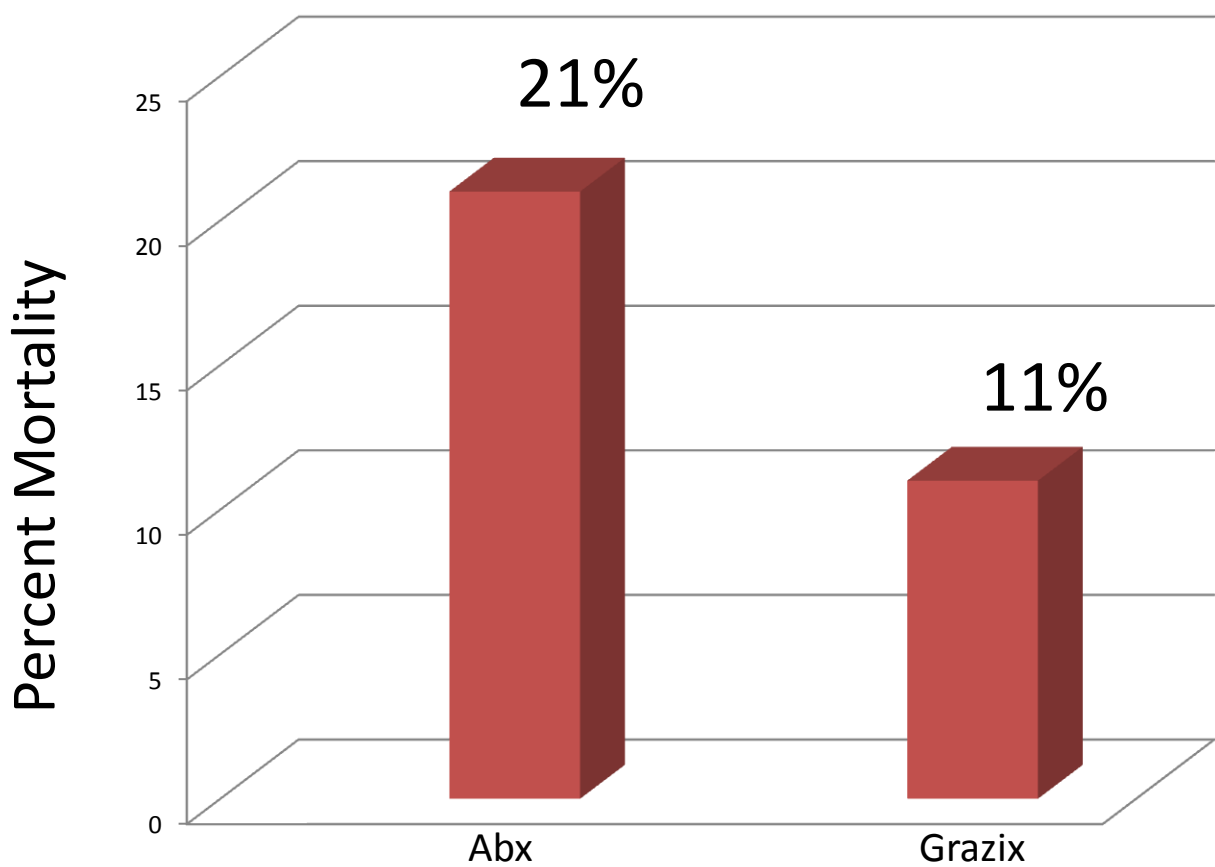


Figure 2. Percent mortality of piglets after administration of either antibiotics (N=21,717) or Grazix feed supplement (N=22,028). $P<0.0001$

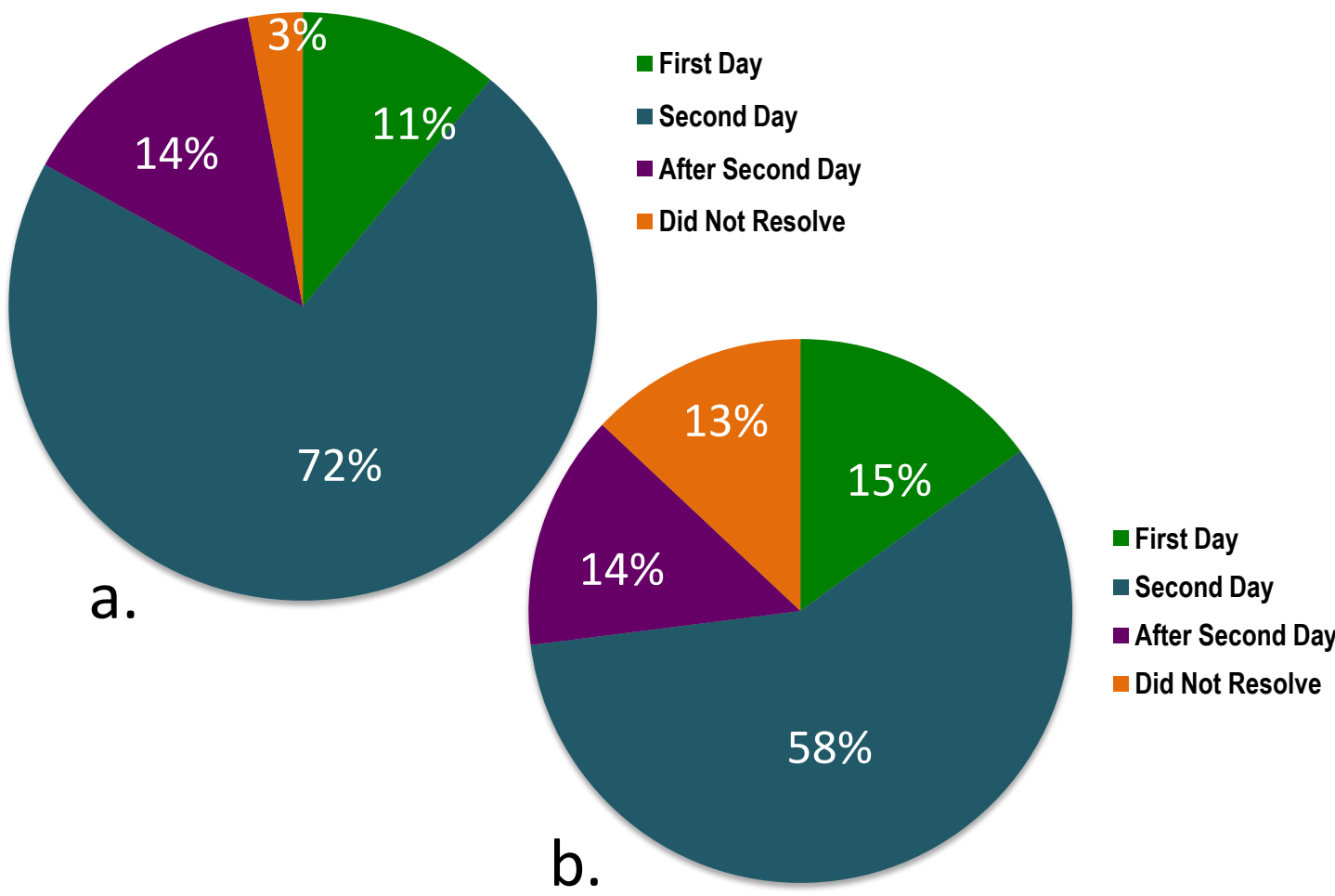


Figure 3. Percentage of piglets 1 to 8 days (a) and 9 to 21 days of age (b) in which scour resolved following consumption of Grazix feed supplement.

CONCLUSION: These field trials demonstrate that administration of this novel plant extract reduced the need for antimicrobial agents in order to maintain the health of piglets. More rigorous testing is needed to determine whether this response can be replicated and to better understand mode of action but the results noted on these farms are encouraging.